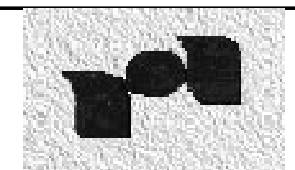


OPTIONAL
TEMPERATURE
AND FLOW
TRANSMITTERS
TO MONITOR
ENERGY
PRODUCTION

GENERAL NOTES :

1. ADD ISOLATION VALVES AND UNIONS AS NEEDED.
- KEYED NOTES :**
- 1 INSTALL KINGSPAN, HP-450 SOLAR COLLECTORS IN SERIES UP TO 6 UNITS. FOR MULTIPLE ROW SYSTEMS REFER TO SOLAR ARRAY FLOW DIAGRAM, DHW-10.
 - 2 SOLAR CONTROL AND PUMP STATION. CONNECT TO ALL RTD's (TT), OPTIONAL HEAT DISSIPATER (12) AND VALVE ACTUATORS (10).
 - 3 MIXING VALVE (SEE MIXING VALVE DETAIL DHW-0)
 - 4 ROUTE T&P RELIEF VALVE (PRESSURE RELIEF ONLY FOR SOLAR STORAGE TANKS) DISCHARGE, FULL SIZE, TO FLOOR DRAIN.
 - 5 PRESSURE REDUCING VALVE - INSTALL ONLY IF WATER SUPPLY PRESSURE EXCEEDS 75% OF WATER HEATING SYSTEM DESIGN PRESSURE.
 - 6 ASME THERMAL EXPANSION TANK - SIZE ACCORDING TO MANUFACTURER'S RECOMMENDATION.
 - 7 COMBINATION TEMPERATURE AND PRESSURE GAUGE. INSTALL WITHIN 12" OF HOT WATER OUTLET.
 - 8 PROVIDE FULL-PORT DRAIN VALVE AND ROUTE TO FLOOR DRAIN.
 - 9 RECIRCULATION PUMP. PROVIDE AQUASTAT ONLY IF REQUIRED BY CODE WITH LETTER TO OWNER REQUIRING RELEASE OF LIABILITY (NON-MOVING WATER PROMOTES LEGIONELLA).
 - 10 ACTUATOR VALVES FOR TANK PRIORITY.
 - 11 FREEZE PROTECTION VALVE, THERMO-MEGA TECH MODEL 3/4" IC/FP-035, INSTALL ON COMMON SOLAR HOT WATER RETURN LINE TO DISCHARGE ON ROOF. VALVE AND TEE TO REMAIN UN-INSULATED.
 - 12 FAN COIL UNIT, SIZED TO DISCHARGE AT LEAST 5,000 BTUH PER COLLECTOR. 3 PORT VALVE TO DIVERT COLLECTOR RETURN AWAY FROM STORAGE TANKS TO DISSIPATER AND ACTIVATE HEAT DISSIPATER FAN WHEN COLLECTOR REACHES 230 DEG F. DUCT DISCHARGE THROUGH NEAREST OUTSIDE WALL.
 - 13 PROVIDE 3/4" SHUTOFF VALVES FOR FUTURE ACCESS POINTS, ACCESSIBLE WITHIN SAME AREA.
 - 14 3-WAY VALVE DIVERTS HOT WATER FROM SOLAR STORAGE TANK DIRECTLY TO MIXING VALVE WHEN TEMPERATURE IS 160 DEG F OR HIGHER.
 - 15 FOR MX AND PLC CONTROLS ONLY, INSTALL MOTORIZED FREEZE PROTECTION BALL VALVE, 3/4", STAINLESS VALVE BODY, WITH ACTUATOR TO OPEN TO FLOOR DRAIN WHEN COLLECTOR TEMPERATURE SENSOR DETECTS ABOUT 38 DEG. F AND SOLAR PUMP IS NOT ACTIVATED.



RAND ASSOCIATES INCORPORATED
Standalone Solar Hot Water System
Single W/H with Triple Solar Storage Tanks

PIPING DIAGRAM		Size: B	FSCM No: -	Drawing No: DHW-5	Version: 15
Drawn By: BLW	Scale: NONE	Date: 09.16.2012	Sheet: 1 of 1		